This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method for preparing an alignment layer for aligning liquid crystal molecules, said alignment layer comprising: (a) a polymer film formed from a polymer or from a polymer precursor and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer or said polymer precursor used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive, said method comprising:

depositing a layer of a solution onto a surface, said solution containing said polymer or polymer precursor, and processing said layer of solution to form said alignment layer, wherein said at least one reactive mesogen additive is incorporated into said layer of solution before said processing, and wherein the concentration of said at least one reactive mesogen additive in said ~~solution containing said~~ polymer or polymer precursor is 0.5 to 4 % by weight.

2. (Cancelled):

3. (Previously Presented): A method according to claim 1, wherein said at least one reactive mesogen additive is present in monomeric or oligomeric form in the alignment layer after the preparation of said alignment layer.

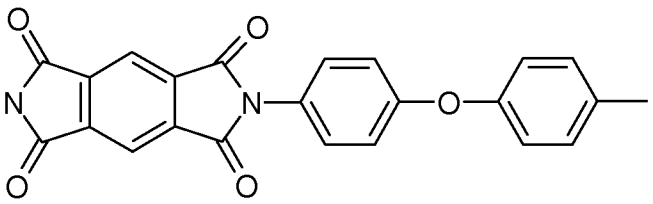
4. (Previously Presented): A method according to claim 1, wherein said alignment layer is obtained from a polymer precursor comprising at least one reactive mesogen.

5. (Cancelled):

6. (Previously Presented): A method according to claim 1, wherein said alignment layer comprises a polyimide film and said at least one reactive mesogen additive

within said polyimide film, and said alignment layer is obtained from a solution comprising a polyimide precursor and said at least one reactive mesogen additive.

7. (Previously Presented): A method according to claim 6, wherein said polyimide film has repeating units of formula A



A

8. (Previously Presented): A method for preparing an alignment layer for aligning liquid crystal molecules, said alignment layer comprising: (a) a polymer film formed from a polymer and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive, said method comprising:

depositing a layer of a solution onto a surface, said solution containing said polymer or a precursor of said polymer, and processing said layer of solution to form said alignment layer, wherein said at least one reactive mesogen additive is incorporated into said layer of solution before said processing,

wherein said alignment layer is formed from a solution of said polymer, and said alignment layer is a solvent processed cellulose based film.

9. (Previously Presented): A method according to claim 8, wherein said polymer film is a triacetate cellulose (TAC) or diacetate cellulose (DAC) film.

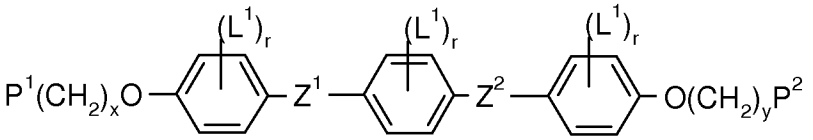
10. (Currently Amended): A method for preparing an alignment layer for aligning liquid crystal molecules, wherein said alignment layer comprises: (a) a command layer comprising one or more compounds selected from photochromic compounds, isomerizable

compounds, chromophores and dyes, wherein changes of the chemical structure and/or the orientational direction of said one or more compounds induce a specific alignment of a liquid crystal material coated onto said layer; and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said command film, wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive, said method comprising:

depositing a layer of a solution onto a surface, said solution containing said one or more compounds of said command layer, and processing said layer of solution to form said command layer, wherein said at least one reactive mesogen additive is incorporated into said layer of solution before said processing, and wherein the concentration of said at least one reactive mesogen additive in said one or more compounds of said command layer ~~said solution~~ is 0.5 to 4 % by weight.

11. (Previously Presented): A method according to claim 10, wherein said one or more compounds are selected from derivatives of azobenzene, stilbenes, spiropyran, spirooxadines, α-hydrazono-β-ketoesters, cinnamate, retinylidene, chalcone, coumarins, benzylidenephthalimidines, benzylideneacetophenones, diphenylacetylene, and stilbazoles.

12. (Previously Presented): A method according to claim 1, wherein said at least one reactive mesogen additive is of one of the following formulae:



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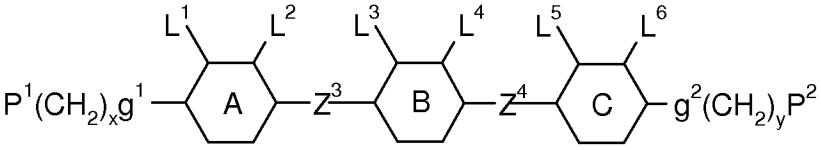

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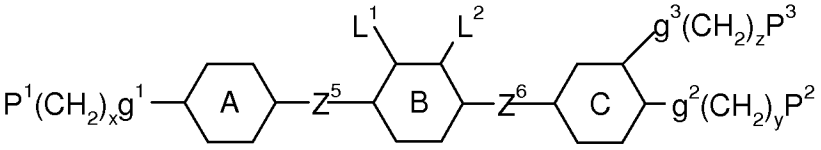

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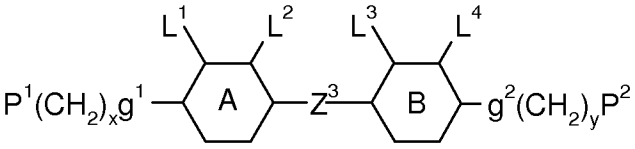

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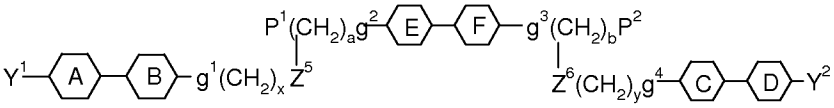

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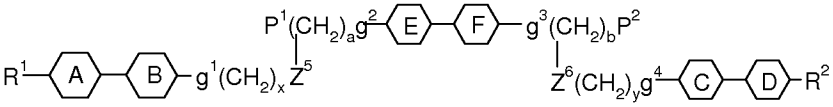

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wherein

P^1, P^2 and P^3 are each, independently of each other, a polymerizable group,

Z^1 and Z^2 are each, independently of each other, -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, $-OCH_2-$, $-CH_2O-$, $-CH_2CH_2-$, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond,

Z^3 and Z^4 are each, independently of each other, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$, -CH=CH-, -CF=CF-, -C≡C- or a single bond,

Z^5 and Z^6 are each, independently of each other, -O-, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$ or a single bond,

Y^1 and Y^2 are each, independently of each other, a polar group,

R^1 and R^2 are each, independently of each other, an unpolar alkyl or alkoxy group,

A, B, C and D are each, independently of each other, 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1, L^2, L^3, L^4, L^5, L^6 or 1,4-cyclohexylene,

L^1, L^2, L^3, L^4, L^5 and L^6 are each, independently of each other, H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkoxycarbonyloxy group with 1 to 7 C atoms,

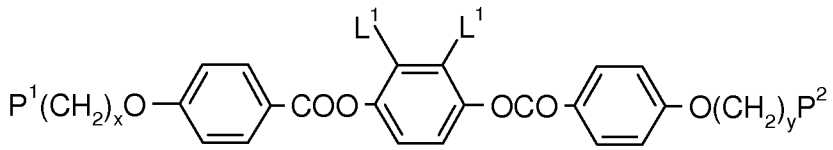
r is 0, 1, 2, 3 or 4,

x and y are each, independently of each other, an integer from 1 to 12,

z is 1, 2 or 3, and

g^1, g^2,g^3 and g^4 are each, independently of each other, a single bond, -O-, -COO- or –OCO-.

13. (Previously Presented): A method according to claim 9, wherein said at least one reactive mesogen additive is of one of the following formulae:



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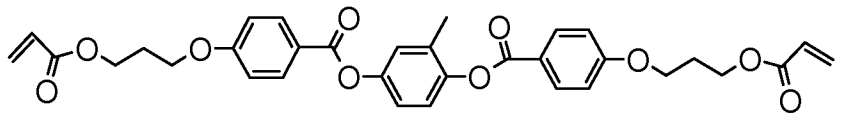

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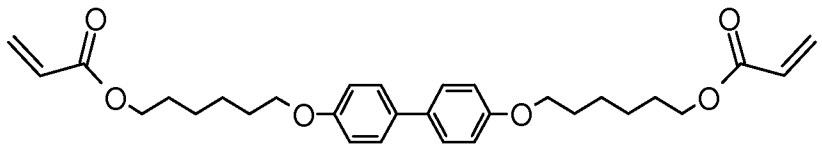

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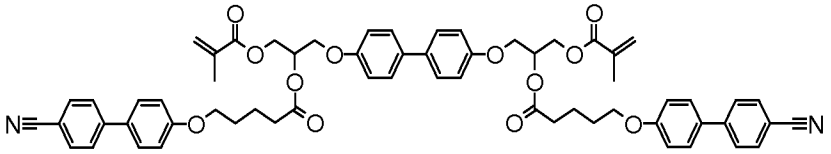

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14. (Cancelled):

15. (Currently Amended): A solution for preparing an alignment layer, said alignment layer comprising: (a) a polymer film formed from a polymer or a polymer precursor and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer or said polymer precursor used to form said polymer film, said solution comprising:

a solvent, said at least one reactive mesogen additive, and a polymer or a polymer precursor, said polymer or polymer precursor comprising: a polyimide polymer or a precursor of said polyimide polymer,

wherein the concentration of said at least one reactive mesogen in said ~~solution~~ polymer or polymer precursor is 0.5 to 4% by weight.

16. (Cancelled):

17. (Cancelled):

18. (Previously Presented): A method of preparing a laminate, said method comprising:

providing an alignment layer according to claim 1,

applying a layer of a polymerizable liquid crystal material onto said alignment layer,

optionally aligning the liquid crystal material into uniform orientation, and

polymerizing or crosslinking the liquid crystal material, wherein said at least one reactive mesogen additive is entangled in said alignment layer, and is chemically bound to the layer of liquid crystal material.

19. (Previously Presented): In an optical, electrooptical, information storage, decorative and security device, the improvement wherein said device contains an alignment layer prepared according to claim 1.

20. (Previously Presented): An optical component or device comprising at least one alignment layer prepared according to claim 1.

21. (Previously Presented): A liquid crystal display comprising at least one alignment layer prepared according to claim 1.

22. (Cancelled):

23. (Cancelled):

24. (Cancelled):

25. (Previously Presented): A method according to claim 1, wherein said alignment layer has a birefringence of less than 0.05.

26. (Previously Presented): A method according to claim 1, wherein said alignment layer has a birefringence of less than 0.005.

27. (Cancelled):

28. (Previously Presented): A method according to claim 1, wherein said at least one reactive mesogen is added to a solution of said polymer or said polymer precursor.

29. (Cancelled):

30. (Currently Amended): A method according to claim 12, wherein the concentration of said at least one reactive mesogen in said ~~solution containing said~~ polymer or polymer precursor is 1 to 2 % by weight.

31. (Previously Presented): A method according to claim 3, wherein said at least one reactive mesogen additive is present in monomeric form in the alignment layer after the preparation of said alignment layer.

32. (Currently Amended): A method according to claim 1, wherein the concentration of said at least one reactive mesogen in said ~~solution containing said~~ polymer or polymer precursor is comprises 1 to 2 % by weight.

33. (Previously Presented): A method according to claim 1, wherein, after said alignment layer is processed from said layer of solution, said at least one reactive mesogen is physically trapped within said polymer of said polymer film.

34. (Previously Presented): A method according to claim 33, wherein said alignment layer is obtained by applying to a substrate a solution of said polymer of said polymer film, and said solution further contains said at least one reactive mesogen, said solution being applied to said substrate, and processing of said alignment layer comprises heating said solution to remove excess solvent.

35. (Previously Presented): A method according to claim 1, wherein said alignment layer is obtained by applying to a substrate a solution comprising said at least one reactive mesogen and a polymer precursor for forming said polymer film, and processing of said alignment layer comprises subjecting said polymer precursor to polymerization.

36. (Previously Presented): A method according to claim 23, wherein said alignment layer has a birefringence of less than 0.05.

37. (Previously Presented): A method according to claim 1, wherein the material of said alignment layer or precursor material thereof, before addition of said at least one reactive mesogen, is non-mesogenic and has a birefringence Δn of < 0.01.

38. (Cancelled):

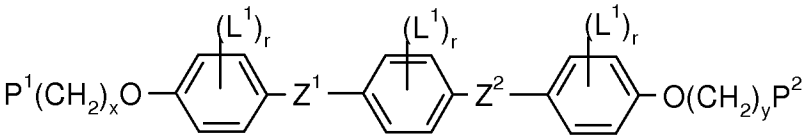
39. (Cancelled):

40. (Cancelled):

41. (Cancelled):

42. (Cancelled):

43. (Previously Presented): A polymer precursor according to claim 15, wherein said at least one reactive mesogen additive is of one of the following formulae:



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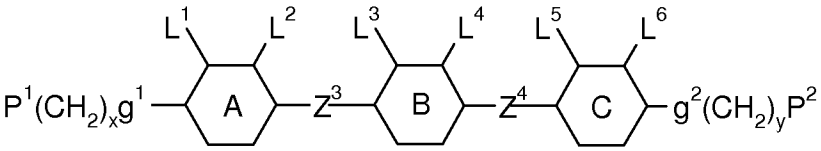

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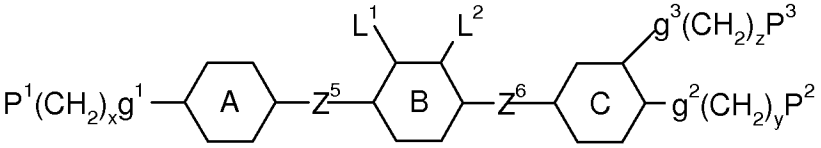

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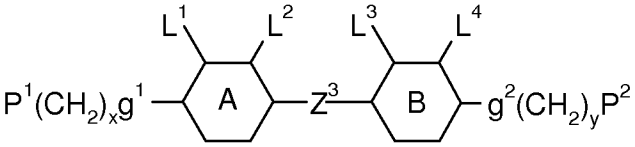

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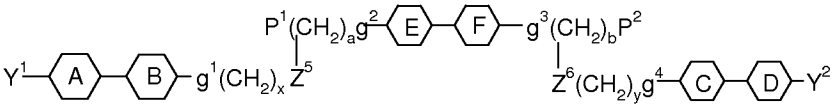

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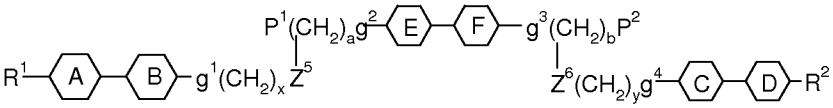

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wherein

P^1, P^2 and P^3 are each, independently of each other, a polymerizable group,

Z^1 and Z^2 are each, independently of each other, -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, $-OCH_2-$, $-CH_2O-$, $-CH_2CH_2-$, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond,

Z^3 and Z^4 are each, independently of each other, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$, -CH=CH-, -CF=CF-, -C≡C- or a single bond,

Z^5 and Z^6 are each, independently of each other, -O-, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$ or a single bond,

Y^1 and Y^2 are each, independently of each other, a polar group,

R^1 and R^2 are each, independently of each other, an unpolar alkyl or alkoxy group,

A, B, C and D are each, independently of each other, 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1, L^2, L^3, L^4, L^5, L^6 or 1,4-cyclohexylene,

L^1, L^2, L^3, L^4, L^5 and L^6 are each, independently of each other, H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkoxycarbonyloxy group with 1 to 7 C atoms,

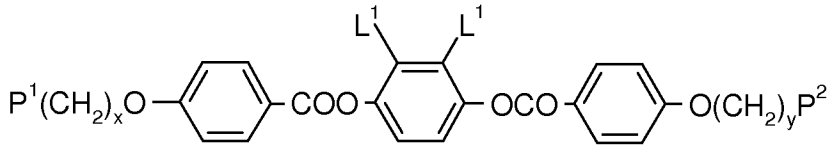
r is 0, 1, 2, 3 or 4,

x and y are each, independently of each other, an integer from 1 to 12,

z is 1, 2 or 3, and

g^1, g^2,g^3 and g^4 are each, independently of each other, a single bond, -O-, -COO- or –OCO-.

44. (Previously Presented): A polymer precursor according to claim 43, wherein said at least one reactive mesogen additive is of one of the following formulae:



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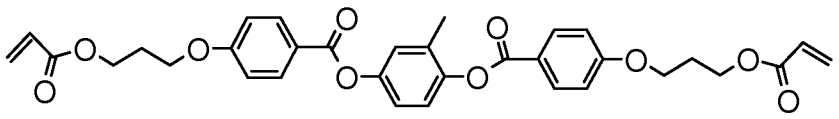

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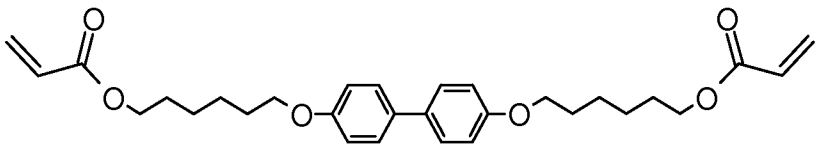

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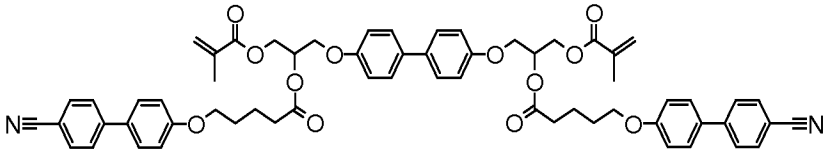

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and said polymer component comprises triacetate cellulose or diacetate cellulose.

45. (Previously Presented): A polymer precursor according to claim 15, wherein said polymer or polymer precursor can form an alignment layer having a birefringence of less than 0.05.

46. (Previously Presented): A polymer precursor according to claim 15, wherein said polymer or polymer precursor can form an alignment layer having birefringence of less than 0.005.

47. (Cancelled):

48. (Previously Presented): A polymer precursor according to claim 15, wherein said polymer or polymer precursor comprises 1 to 2 % by weight of said at least one reactive mesogen.

49. (Previously Presented): An alignment layer for aligning liquid crystal molecules, said alignment layer comprising: (a) a polymer film formed from a polymer and

(b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer contains unreacted polymerizable groups in said at least one reactive mesogen additive,

wherein said alignment layer is a solvent processed cellulose based film, and said at least one reactive mesogen additive contains a polymerizable group selected from acrylate, methacrylate, and oxetane.

50. (Previously Presented): An alignment layer according to claim 49, wherein said polymer film is a triacetate cellulose (TAC) or diacetate cellulose (DAC) film.

51. (Cancelled):

52. (Cancelled):

53. (Cancelled):

54. (Cancelled):

55. (Cancelled):

56. (Previously Presented): A laminate prepared according to claim 18, wherein the said alignment layer contains one reactive mesogen additive and the polymerizable liquid crystal material is a liquid crystal.

57. (Previously Presented): A method for preparing an alignment layer for aligning liquid crystal molecules, said alignment layer comprising: (a) a polymer film formed from a polymer or from a polymer precursor and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer or polymer precursor used to form said polymer film, and wherein, after preparation of said alignment layer, said alignment layer

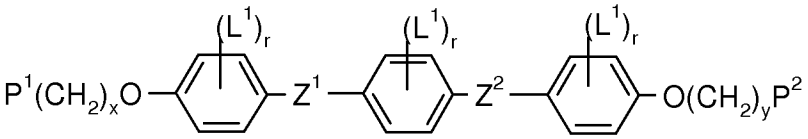
contains unreacted polymerizable groups in said at least one reactive mesogen additive, said method comprising:

depositing a layer of a solution onto a surface, said solution containing said polymer or polymer precursor, and processing said layer of solution to form said alignment layer, wherein said at least one reactive mesogen additive is incorporated into said layer of solution before said processing, and said at least one reactive mesogen additive is miscible with said polymer film formed from a polymer or from a polymer precursor.

58. (Previously Presented): A solution for preparing an alignment layer, said alignment layer comprising: (a) a polymer film formed from a polymer or a polymer precursor and (b) at least one reactive mesogen additive in monomeric, oligomeric or polymeric form within said polymer film, wherein said at least one reactive mesogen additive is not said polymer or said polymer precursor used to form said polymer film, said solution comprising:

a solvent, said at least one reactive mesogen additive, and a polymer or a polymer precursor, said polymer or polymer precursor comprising triacetate cellulose or diacetate cellulose, and said at least one reactive mesogen additive having a polymerizable group selected from acrylate, methacrylate, and oxetane, wherein the concentration of said at least one reactive mesogen in said polymer or polymer precursor is 0.5 to 4% by weight.

59. (Previously Presented): A polymer precursor according to claim 58, wherein said at least one reactive mesogen additive is of one of the following formulae:



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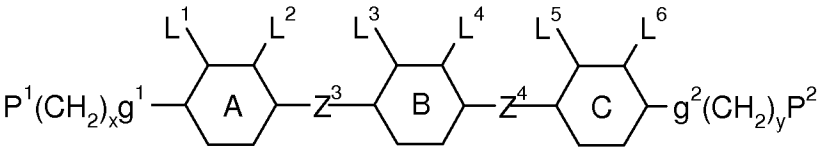

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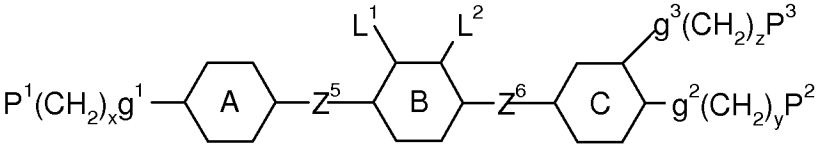

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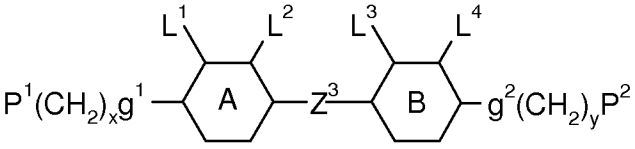

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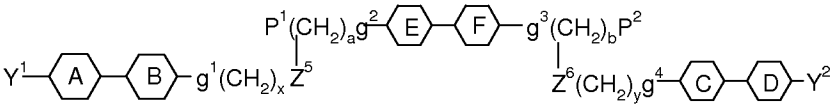

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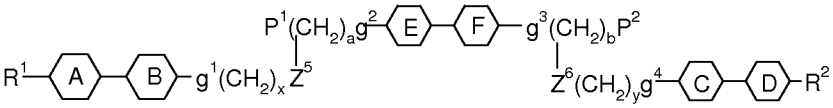

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wherein

P^1, P^2 and P^3 are each, independently of each other, a polymerizable group,

Z^1 and Z^2 are each, independently of each other, -O-, -S-, -CO-, -COO-, -OCO-, -O-COO-, $-OCH_2-$, $-CH_2O-$, $-CH_2CH_2-$, -C≡C-, -CH=CH-COO-, -OCO-CH=CH- or a single bond,

Z^3 and Z^4 are each, independently of each other, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$, -CH=CH-, -CF=CF-, -C≡C- or a single bond,

Z^5 and Z^6 are each, independently of each other, -O-, -COO-, -OCO-, $-CH_2CH_2-$, $-CH_2O-$, $-OCH_2-$ or a single bond,

Y^1 and Y^2 are each, independently of each other, a polar group,

R^1 and R^2 are each, independently of each other, an unpolar alkyl or alkoxy group,

A, B, C and D are each, independently of each other, 1,4-phenylene that is optionally mono-, di- or trisubstituted by L^1, L^2, L^3, L^4, L^5, L^6 or 1,4-cyclohexylene,

L^1, L^2, L^3, L^4, L^5 and L^6 are each, independently of each other, H, F, Cl, CN or an optionally halogenated alkyl, alkoxy, alkylcarbonyl, alkoxycarbonyl or alkoxycarbonyloxy group with 1 to 7 C atoms,

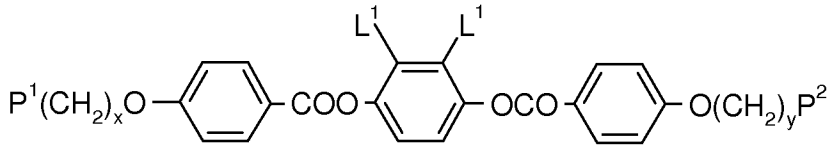
r is 0, 1, 2, 3 or 4,

x and y are each, independently of each other, an integer from 1 to 12,

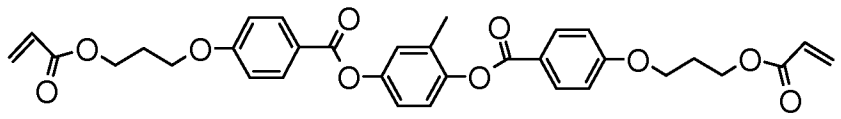
z is 1, 2 or 3, and

g^1, g^2,g^3 and g^4 are each, independently of each other, a single bond, -O-, -COO- or –OCO-.

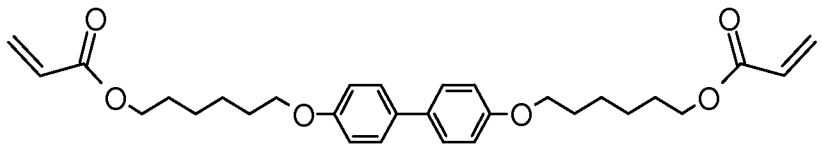
60. (Previously Presented): A polymer precursor according to claim 59, wherein said at least one reactive mesogen additive is of one of the following formulae:



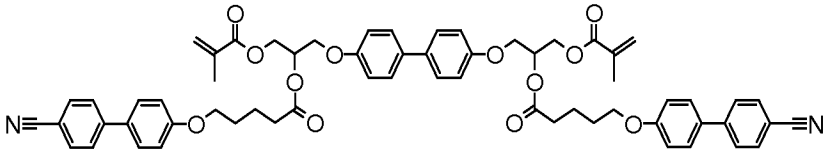
Ia



IIa



IVa



Va

,

and said polymer component comprises triacetate cellulose or diacetate cellulose.

61. (Previously Presented): A polymer precursor according to claim 58, wherein said polymer or polymer precursor can form an alignment layer having a birefringence of less than 0.05.

62. (Previously Presented): A polymer precursor according to claim 58, wherein said polymer or polymer precursor can form an alignment layer having birefringence of less than 0.005.

63. (Previously Presented): A polymer precursor according to claim 58, wherein said polymer or polymer precursor comprises 1 to 2 % by weight of said at least one reactive mesogen.